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EXAMINER				
NGUYEN, HUNG D				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/552,157

**Applicant(s)**

HESSE, JOHANN

**Examiner**

HUNG NGUYEN

**Art Unit**

3742

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/808)
- Paper No(s)/Mail Date 2/9/2009.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is responsive to the amendment filed on 02/09/2009. As directed by the amendment: claim 11 has been canceled, claims 20 and 21 have been added. Thus, claims 1-10 and 12-21 are presently pending in this application.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1-8, 10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224) and further view of Vokurka (US Pat. 4,323,758).

4. Regarding claim 1, Zimmer discloses a multiaxial transport comprising a multiaxial transport robot 1 (Fig. 1) with a robot hand end 8 (Fig. 1) movable based on the three or more transport means controllable rotary axes of motion (axis 9, 7, 5 as shown in Fig. 1) except for a carrier connected to a robot hand end of the multiaxial transport for movement of the carrier about the axes of motion of the multiaxial transport means; an independent movable multiaxial machining unit with a robot hand end having a jointing tool, the multiaxial machining unit being arranged at and mounted on the carrier for movement of the jointing tool about at least two separate controllable axes of

motion relative to the carrier connected the robot arm of the transport means. Colechia et al. teaches a stowable underwater manipulator where the carrier 12 (Fig. 1) with the independent movable multiaxial machining 30, 30' (Fig. 1) having the tools 35, 35' (Fig. 1) (Col. 3, Lines 32-42). Vokurka teaches a universal control structure for welding devices of an automatic welding machine with the tools is welding gun 5 (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. and Vokurka in order to have a carrier connected to a robot hand end of the multiaxial transport for movement of the carrier about the axes of motion of the multiaxial transport means; an independent movable multiaxial machining unit with a robot hand end having a jointing tool, the multiaxial machining unit being arranged at and mounted on the carrier for movement of the jointing tool about at least two separate controllable axes of motion relative to the carrier connected the robot arm of the transport means, for the purpose of handling, operating, and manipulating a large variety of tools.

5. Regarding claim 2, Zimmer further disclosed the transport means multiaxial transport robot (Figure 1) has six rotary axes (Col. 3, Lines 49-52).
6. Regarding claim 3, Zimmer discloses all the claimed features as set forth above except for another independently movable multiaxial machining unit with another robot hand end having another jointing tool, and another multiaxial machining unit being arranged at and mounted to the carrier for movement of the another jointing tool about at least two separate controllable axis of motion relative to the carrier connected at the robot arm of the transport means, wherein the machining units are each designed as

multiaxial small robots each with a robot hand with one of the tool. Colechia et al. teaches a stowable underwater manipulator where the carrier 12 (Fig. 1) with the independent movable multiaxial machining 30, 30' (Fig. 1) having the tools 35, 35' (Fig. 1) (Col. 3, Lines 32-42). Vokurka teaches a universal control structure for welding devices of an automatic welding machine with the tools is a welding gun 5 (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. and Vokurka in order to have another independently movable multiaxial machining unit with another robot hand end having another jointing tool, and another multiaxial machining unit being arranged at and mounted to the carrier for movement of the another jointing tool about at least two separate controllable axis of motion relative to the carrier connected at the robot arm of the transport means, wherein the machining units are each designed as multiaxial small robots each with a robot hand with one of the tool, for the purpose of handling, operating, and manipulating a large variety of tools.

7. Regarding claim 4, Zimmer discloses all the claimed features as set forth above except for the machining units are arranged on different sides of the carrier. Colechia et al. teaches a stowable underwater manipulator where the machining units 30, 31' (Fig. 1) are arranged on different sides of the carrier 12 (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. in order to have the machining units are arranged on different sides of the carrier, for the purpose of handling, operating, and manipulating a large variety of tools.

8. Regarding claim 5, Zimmer discloses all the claimed features as set forth above except for the machining units can be controlled individually. Colechia et al. teaches a stowable underwater manipulator where the machining units 30, 31' (Fig. 1) can be controlled individually (Col. 3, Lines 32-42). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. in order to have the machining units can be controlled individually, for the purpose of handling, operating, and manipulating a large variety of tools independently.

9. Regarding claim 6, the combined references disclose all the claimed features except for the machine unit can be controlled from the transport mean. Vokurka teaches a universal control structure for welding devices of an automatic welding machine the machine unit 4 (Figure 1) can be controlled from the transport mean (Column 3, lines 26-30). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Vokurka in order to have the machine unit can be controlled from the transport mean, for the purpose of handling, operating, and manipulating a large variety of tools independently.

10. Regarding claim 7, Zimmer discloses all the claimed features as set forth above except for the carrier is designed as a straight girder. Colechia et al. teaches a stowable underwater manipulator where the carrier 12 (Fig. 1) is a straight girder. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. in order to have the carrier

is designed as a straight girder, for the purpose of handling, operating, and manipulating a large variety of tools.

11. Regarding claim 8, Zimmer discloses all the claimed features except for the small robots are design as six-axis articulated arm robots each for moving the jointing tool relative to the six rotary axes. Colechia et al. teaches a stowable underwater manipulator where the small robot arm 30 (Fig. 2) is designed as six-axis articulated arm (axis 36a, 38a, 40a, 42a, 44a, 46) for moving the tool 35 (Fig. 2). Vokurka teaches a universal control structure for welding devices of an automatic welding machine with the tools is a welding gun 5 (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. and Vokurka in order to have the small robots are design as six-axis articulated arm robots each for moving the jointing tool relative to the six rotary axes, for the purpose of handling, operating, and manipulating a large variety of tools.

12. Regarding claim 10, Zimmer discloses all the claimed features except for each jointing tool is replaceable connected with an associated robot hand of one of the machining units. Colechia et al. teaches a stowable underwater manipulator where the small robot arms 30, 30' (Fig. 2) connected to tools 35, 35' (Fig. 1) (Col. 12-15). Vokurka teaches a universal control structure for welding devices of an automatic welding machine with the tools is a welding gun 5 (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. and Vokurka in order to have each jointing tool is

replaceable connected with an associated robot hand of one of the machining units, for the purpose of handling, operating, and manipulating a large variety of tools.

13. Regarding claim 13, Zimmer discloses a multiaxial industrial robot comprising a multiaxial transport robot 1 (Fig. 1) with a robot hand end 8 (Fig. 1) movable based on six transport mean (Col.3, Lines 49-52) controllable rotary axes of motion except for a carrier connected to a robot hand end of the multiaxial robot transport for movement; a plurality of multiaxial machining units mounted on and carried by a carrier, each of the multiaxial machining units comprising a six axis articulated arm robot for moving the jointing tool relative to the carrier and having a robot hand end; a plurality of jointing tools, each robot hand end of the multiaxial machining units being connected to a respective one of the jointing tools. Colechia et al. teaches a stowable underwater manipulator where the carrier 12 (Fig. 1) with the independent movable multiaxial machining 30, 30' (Fig. 1) having the tools 35, 35' (Fig. 1) (Col. 3, Lines 32-42). Vokurka teaches a universal control structure for welding devices of an automatic welding machine with the tools is welding gun 5 (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al. and Vokurka in order to have a carrier connected to a robot hand end of the multiaxial robot transport for movement; a plurality of multiaxial machining units mounted on and carried by a carrier, each of the multiaxial machining units comprising a six axis articulated arm robot for moving the jointing tool relative to the carrier and having a robot hand end; a plurality of jointing tools, each robot hand

end of the multiaxial machining units being connected to a respective one of the jointing tools, for the purpose of handling, operating, and manipulating a large variety of tools.

14. Regarding claim 15, Zimmer further discloses a machine device 1 (Fig. 1) is designed as a portal robot.

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224), Vokurka (US Pat. 4,323,758) and further view of Tuenkers (DE 10017897).

16. Regarding claim 9, the combined references disclose all the claimed features as set forth above except for the machine units are arranged on different side of the carrier, offset in relation to one another. Tuenkers teaches a framework systems for use in body construction in the motor industry where the machine units 3 (Figure 1) are arranged on different side of the carrier 2 (Figure 1), offset in relation to one another. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Tuenkers in order to have the machine units are arranged on different side of the carrier, offset in relation to one another, for the purpose of having tools in different planes and angles.

17. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224), Vokurka (US Pat. 4,323,758) and further view of Fischer et al. (WO 0071292).

18. Regarding claim 12, the combined references discloses all the claimed feature except for an additional support is provided for the carrier, the carrier being connected to the additional support by a ball and socket joint. Fischer et al. teaches Positioning

system for workpiece carrier wherein the carrier 6 (Fig. 1) connected to the support stand 10 (Fig. 1) by the ball and socket 13, 11 (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Fischer et al. in order to have an additional support is provided for the carrier, the carrier being connected to the additional support by a ball and socket joint, for the purpose of supporting the heavy load.

19. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224), Vokurka (US Pat. 4,323,758) and further view of Alborante (US Pat. 5,902,496).

20. Regarding claim 14, the combined references disclose all the claimed features as set forth above except for a station frame wherein a machining device is arranged at the station frame. Alborante teaches a device for spot welding structures constituted by metal elements, particular motor vehicle bodies or sub-assembly where the machining units 10 (Fig. 1) are arranged at the frame station 1 (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Alborante in order to have a station frame wherein a machining device is arranged at the station frame, for the purpose of welding a motor-vehicle body.

21. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224), Vokurka (US Pat. 4,323,758) and further view of Nishimoto et al. (US Pat. 5,374,799).

22. Regarding claim 16, Zimmer discloses the method of a multiaxial transport robot comprising the step of: providing a multiaxial transport robot 1 (Fig. 1) with a robot hand end 8 (Fig. 1) movable base on three or more transport controllable rotary axes of motion (Col.3, Lines 49-52) except for providing a carrier connected to the robot hand for movement about the axes of motion of the multiaxial transport robot; providing a plurality on independently movable multiaxial machine units arranged at and mounted to the carrier, each of the multiaxial machining units having a robot hand end having a tool, with at least one tool being a jointing tool, the multiaxial machining unit being for movement of the tool about at least two separate controllable axes of motion relatively to the carrier; employing the transport robot for introducing the carrier with the multiaxial machining unit into the interior space of the component, wherein the machining units carry out machining operations, including at least one of the machining units carrying out jointing, on the inside of the component in the interior space. Colechia et al. teaches a stowable underwater manipulator where the carrier 12 (Fig. 1) with the independent movable multiaxial machining 30, 30' (Fig. 1) having the tools 35, 35' (Fig. 1) (Col. 3, Lines 32-42). Vokurka teaches a universal control structure for welding devices of an automatic welding machine with the tools is welding gun 5 (Fig. 3). Nishimoto et al. teaches the method for the assembly of automotive vehicle bodies and a jig unit therefore where the welding robot disposed inside the upper body vehicle for welding (Col. 20, Lines 44-51) and also teaches the welding robot carrying a joint on the inside of the body vehicle (Fig. 33 and 34). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the

teaching of Colechia et al., Vokurka and Nishimoto et al. in order to have a carrier connected to the robot hand for movement about the axes of motion of the multiaxial transport robot; providing a plurality of independently movable multiaxial machine units arranged at and mounted to the carrier, each of the multiaxial machining units having a robot hand end having a tool, with at least one tool being a jointing tool, the multiaxial machining unit being for movement of the tool about at least two separate controllable axes of motion relatively to the carrier; employing the transport robot for introducing the carrier with the multiaxial machining unit into the interior space of the component, wherein the machining units carry out machining operations, including at least one of the machining units carrying out jointing, on the inside of the component in the interior space, for the purpose of carrying out the assembly of automotive vehicle bodies.

23. Regarding claim 17, Zimmer discloses the transport means robot 1 (Fig. 1) has six rotary axes (Col.3, Lines 49-52) except for the independently movable multiaxial machining units are each six-axis articulated arm robots each for moving the jointing tool relatively to the six rotary axes; a plurality of the tools are jointing tools including one or more of clamping tools, welding tools and bonding tools; and the components is clamped on the inside by one or more said machining units and is machined including being jointed by other machining units. Colechia et al. teaches a stowable underwater manipulator where the carrier 12 (Fig. 1) with the independent movable multiaxial machining 30, 30' (Fig. 1) having the tools 35, 35' (Fig. 1) (Col. 3, Lines 32-42). Vokurka teaches a universal control structure for welding devices of an automatic welding machine with the tools is welding gun 5 (Fig. 3). Nishimoto et al. teaches the

method for the assembly of automotive vehicle bodies and a jig unit therefore where the clamping and welding machine are carrying out during the assembly (Fig. 6). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Zimmer the teaching of Colechia et al., Vokurka and Nishimoto et al. in order to have the independently movable multiaxial machining units are each six-axis articulated arm robots each for moving the jointing tool relatively to the six rotary axes; a plurality of the tools are jointing tools including one or more of clamping tools, welding tools and bonding tools; and the components is clamped on the inside by one or more said machining units and is machined including being jointed by other machining units, for the purpose of carrying out the assembly of automotive vehicle bodies.

24. Regarding claim 18, the combined references disclose all the claimed features as set forth above except for the carrier with the machining unit is introduced through an opening into the component. Nishimoto et al. teaches the method for the assembly of automotive vehicle bodies and a jig unit therefore where the welding station is introduced through an opening into the component (Fig. 34). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Nishimoto et al. in order to have the carrier with the machining unit is introduced through an opening into the component, for the purpose of welding the components inside the vehicle body.

25. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224), Vokurka (US Pat.

4,323,758), Nishimoto et al. (US Pat. 5,374,799) and further view of Fischer et al. (WO 0071292).

26. Regarding claim 19, the combined references discloses all the claimed features as set forth above except for the carrier with the machining units is additionally supported in the working position by an additional support, the carrier being connected to the additional support by a ball and socket joint. Fischer et al. teaches Positioning system for workpiece carrier wherein the carrier 6 (Fig. 1) connected to the support stand 10 (Fig. 1) by the ball and socket 13, 11 (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Fischer et al. in order to have an additional support is provided for the carrier, the carrier being connected to the additional support by a ball and socket joint, for the purpose of supporting the heavy load.

27. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224), Vokurka (US Pat. 4,323,758) and further view of Pigott et al. (US Pat. 4,795,075).

28. Regarding claim 20, the combined references discloses all the claimed features as set forth above except for one or more of the multiaxial machining units are for clamping the workpiece from at least one of the inside and the outside of an interior space defined by the workpiece. Pigott et al. teaches a holding apparatus for a vehicle assembly line where the inner frame 9 (Fig. 2) carrying clamps 11 (Fig. 2) which are insertable through the upper aperture(s) for clamping the inside and outside of the vehicle body (Abstract and Col. 1, Lines 33-41). It would have been obvious to one of

ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Pigott et al. in order to have one or more of the multiaxial machining units are for clamping the workpiece from at least one of the inside and the outside of an interior space defined by the workpiece, for the purpose of holding the workpiece for welding during the assembly line.

29. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmer (US Pat. 5,305,652) in view of Colechia et al. (US Pat. 3,451,224), Vokurka (US Pat. 4,323,758), Nishimoto et al. (US Pat. 5,374,799) and further view of Pigott et al. (US Pat. 4,795,075).

30. Regarding claim 21, the combined references discloses all the claimed features as set forth above except for one or more of the multiaxial machining units are for clamping the workpiece from at least one of the inside and the outside of an interior space defined by the workpiece. Pigott et al. teaches a holding apparatus for a vehicle assembly line where the inner frame 9 (Fig. 2) carrying clamps 11 (Fig. 2) which are insertable through the upper aperture(s) for clamping the inside and outside of the vehicle body (Abstract and Col. 1, Lines 33-41). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in the combined references the teaching of Pigott et al. in order to have one or more of the multiaxial machining units are for clamping the workpiece from at least one of the inside and the outside of an interior space defined by the workpiece, for the purpose of holding the workpiece for welding during the assembly line.

***Response to Amendment***

31. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **HUNG NGUYEN** whose telephone number is (571)270-7828. The examiner can normally be reached on Monday-Friday, 8:30AM-6PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUNG NGUYEN/  
Examiner, Art Unit 3742

/TU B HOANG/  
Supervisory Patent Examiner, Art Unit 3742